

### **REMARKS**

In reply to the Office Action dated September 11, 2009, please reconsider the present application in view of the following remarks. Applicant thanks the Examiner for carefully considering the application.

#### **Status of Claims**

Claims 1-29 are currently pending. Claims 1, 8, and 12 are independent.

Claims 1 and 22-26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 00/33160 by Eldering (“Eldering”) in view of U.S. Patent Pub. No. 2008/0040749 for Hoffberg et al. (“Hoffberg”). Claims 2-4 and 5-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Eldering in view of Hoffberg and further in view of U.S. Patent No. 6,738,978 issued to Hendricks (“Hendricks I”) in view of U.S. Patent No. 6,088,722 (“Herz”). Claims 8-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hendricks in view of U.S. Patent No. 6,177,931 issued to Alexander (“Alexander”) in further view of Eldering and Hoffberg. Claim 11 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,798,785 issued to Hendricks (“Hendricks II”) and further in view of Alexander, Eldering, Hoffberg and further in view of U.S. Patent No. 5,801,747 issued to Bedard (“Bedard”). Claims 12, 13, 15-18 and 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hendricks I in view of Eldering. Claims 14 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hendricks I in view of Eldering and further in view of Herz. Claim 20 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hendricks I in view of

Eldering, further in view of Herz, and further in view of “A tutorial on Hidden Markov Models and Selected Applications in Speech Recognition” by Rabiner et al. (“Rabiner”).

### **Claim Amendments**

Claims 1, 8 and 12 are amended for clarification. New claims 27-29 are added.  
No new matter has been added.

### **Substance of the Interview**

On December 4, 2009, attorney Steven Laut (Reg. No. 47,736) and Examiner Nguyen Ba conducted an interview. During the interview, the limitations of the independent claims were discussed with regard to Eldering and Hoffberg. No resolution was obtained.

### **Rejection under 35 U.S.C. § 103(a)**

#### *Claims 1 and 22-26*

Claims 1 and 22-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Eldering in view of Hoffberg. The rejection is respectfully traversed because Eldering and Hoffberg fail to show or suggest the claimed limitations.

According to MPEP §2142

[t]he key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. \_\_\_, \_\_\_, 82 USPQ2d 1385, 1396 (2007) noted that the analysis

supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that ‘rejections on obviousness cannot be sustained with mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.’ *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR*, 550 U.S. at \_\_\_, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval).

Further, according to MPEP §2143, “[T]he Supreme Court in *KSR International Co. v. Teleflex, Inc.* 550 U.S. \_\_\_, \_\_\_, 82 USPQ2d 1395-1397 (2007) identified a number of rationales to support a conclusion of obviousness which are consistent with the proper “functional approach” to the determination of obviousness as laid down in *Graham*.” And, according to MPEP §2143.01, [o]bviousness can be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so. *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1335 (Fed. Cir. 2006). Further, “[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art.” *KSR International Co. v. Teleflex, Inc.* 550 U.S. \_\_\_, \_\_\_, 82 USPQ2d 1385, 1396 (2007).

Additionally, according to MPEP §2143

[a] statement that modification of the prior art to meet the claimed invention would have been “well within the ordinary skill of the art at the time the claimed invention was made” because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Pat. App. & Inter. 1993).

Independent claim 1 requires, in part,

a server-side system for evaluating television behavioral viewing data from *a plurality of users and for categorizing the data into non-demographically classifiable category groups*; a clustering engine included in the server-side system for: receiving the television behavioral viewing data, processing the television behavioral viewing data; *using a category training set for clustering the television behavioral viewing data into the category groups over a predetermined training period*; generating category behavioral profiles targeting the category groups; and generating advertising category prototypes by removing television behavioral viewing data parameters most common between the category behavioral profiles; a client-side system coupled to the server-side system and adapted to classify a television user into at least one of the category groups based on advertising category prototypes received from the clustering engine; a contextual behavioral profiling agent included in the client-side system for deriving profiling information related to a television user's viewing behavior with content and usage-related preferences; and a behavioral model database for storing in the client-side system the profiling information derived by the profiling agent (emphasis added).

Eldering monitors user behavior and uses conditional probabilities or logical heuristics to determine the demographics of the subscriber (or household of subscribers).

Eldering monitors advertisement watching, time, and also targets the subscriber.

Eldering, however, does not teach “a server-side system for evaluating television behavioral viewing data from *a plurality of users* and for categorizing the data into *non-demographically classifiable category groups*” as Eldering deals with individual subscribers to determine their individual demographics.

Further distinguishable from Eldering, Applicant's claim 1 requires, in part, “*using a category training set for clustering the television behavioral viewing data into*

*the category groups over a predetermined training period; generating category behavioral profiles targeting the category groups; and generating advertising category prototypes by removing television behavioral viewing data parameters most common between the category behavioral profiles”* (emphasis added). Further, once Applicant’s claimed invention categorizes the data into the non-demographically classifiable category groups, the system classifies “*a television user into at least one of the category groups based on advertising category prototypes received from the clustering engine*” (emphasis added).

That is, Applicant’s claimed invention forms the non-demographically classifiable groups based on the television behavioral viewing data from a plurality of users, uses a training set to cluster the television behavioral viewing data into category groups, generates behavioral profiles targeting the category groups, removes television behavioral viewing data parameters most common between the category behavioral profiles to form advertising category prototypes, and classifies a specific user with at least one category group based on the advertising category prototypes.

Hoffberg is cited for disclosing prediction of next operations based on past behavior with a remote control. Hoffberg is also relied on for teaching non-demographic information. Hoffberg, however, does not teach or suggest “*evaluating television behavioral viewing data from a plurality of users and for categorizing the data into non-demographically classifiable category groups*” (emphasis added). Further,

Moreover, if the “non-demographic” information of Hoffberg is used by Eldering, it would change the principle of operation as the profile in Eldering could not be formed, and advertisements could not be targeted based on demographics. Thus, the combination of Eldering and Hoffberg would not work, and would have to be completely redesigned. The change of the principle operation of Eldering is not sufficient to render the claims *prima facie* obvious based on case law (see MPEP 2143.01 VI, “[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)).

Based on the above, even if Eldering is combined with Hoffberg, the result would still not teach or suggest the limitations of

*using a category training set for clustering the television behavioral viewing data into the category groups over a predetermined training period; generating category behavioral profiles targeting the category groups; and generating advertising category prototypes by removing television behavioral viewing data parameters most common between the category behavioral profiles; a client-side system coupled to the server-side system and adapted to classify a television user into at least one of the category groups based on advertising category prototypes received from the clustering engine; a contextual behavioral profiling agent included in the client-side system for deriving profiling information related to a television user's viewing behavior with content and usage-related preferences; and a behavioral model database for storing in the client-side system the profiling information derived by the profiling agent (emphasis added)*

as required, in part, by amended claim 1.

Further, the assertions made in the Office Action on pages 3-5 that lead to a conclusion of obviousness are not explicit and the basic requirements of an articulated rationale under MPEP §2142 cannot be found. Additionally, since Eldering in view of Hoffberg does not teach, disclose or suggest all the limitations of amended claim 1, as listed above, amended claim 1 is not obvious over Eldering in view of Hoffberg since a *prima facie* case of obviousness has not been met under MPEP §2143. Additionally, the claims that directly or indirectly depend from amended claim 1, namely, claims 22-26, would also not be obvious over Eldering in view of Hoffberg for at least the same reason.

Accordingly, withdrawal of the rejection of claims 1 and 22-26 is respectfully requested.

Additionally, new claim 27 requires, in part, “the category training set is initially *a preexisting collection of advertising categories*” (emphasis added). New claim 28 requires, in part, “the advertising category prototypes are *formed during the training period*” (emphasis added). New claim 29 requires, in part, “*the training period is continuously adjusted*” (emphasis added). Even if Eldering and Hoffberg are combined, the result would still not teach these limitations. Based on the above, new claims 27-29 are patentable over Eldering in view of Hoffberg for at least the above-mentioned reasons.

*Claims 2-4 and 5-7*

Claims 2-4 and 5-7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Eldering and Hoffberg, in view of Hendricks I in view of Herz. The rejection is respectfully traversed because for at least the following reasons, Eldering, Hendricks I and Herz, alone or combined, fail to show or suggest the claimed limitations.

Claims 2-4 and 5-7 either directly or indirectly depend from amended claim 1. As discussed above, Eldering in view of Hoffberg does not teach, disclose or suggest amended claim 1 limitations of

*using a category training set for clustering the television behavioral viewing data into the category groups over a predetermined training period; generating category behavioral profiles targeting the category groups; and generating advertising category prototypes by removing television behavioral viewing data parameters most common between the category behavioral profiles; a client-side system coupled to the server-side system and adapted to classify a television user into at least one of the category groups based on advertising category prototypes received from the clustering engine; a contextual behavioral profiling agent included in the client-side system for deriving profiling information related to a television user's viewing behavior with content and usage-related preferences; and a behavioral model database for storing in the client-side system the profiling information derived by the profiling agent (emphasis added).*

Hendricks I discloses a headend (i.e., server) that gathers data from each set top terminal and compiles demographic information and program watched information from each of the set top terminal terminals (i.e., clients). Based on the information received and the compiled demographics and watched information, the headend generates advertising packages and targets each set top terminal. That is, based on received



information from a set top terminal, the set top terminal is categorized at the headend to determine targeted advertising to send to the set top terminal. Therefore, the set top terminal does not need to determine anything as the headend is making the determination of content to target the set top terminal with. Thus, Hendricks I does not teach, disclose or suggest “a client-side system coupled to the server-side system and adapted to *classify a television user into at least one of the category groups based on advertising category prototypes received from the clustering engine*” (emphasis added). Moreover, Hendricks I does not teach or suggest “evaluating television behavioral viewing data from *a plurality of users and for categorizing the data into non-demographically classifiable category groups*” (emphasis added) as required, in part, by amended claim 1.

Herz discloses an agreement matrix is created for each viewer from customer profiles stored at the headend and content profiles of the video programming to be transmitted. The video programming is then limited to content based on a particular customer’s profile to determine content to be delivered to each customer. Herz has nothing to do with using other user’s information for determining targeted content to deliver to a set top terminal.

Herz further discloses that the memory requirements at the set top terminal are minimized by limiting the amount of data that is transmitted to the set top terminal and by maintaining the profile and creating the agreement matrix at the headend (Herz, col.42, lines 54-67). Similar as with Hendricks I, a determination of content to target a user is made at the headend. Additionally, because Herz teaches reducing memory requirements

at the set top terminal, Herz teaches away from “a client-side system coupled to the server-side system and adapted to classify a television user into at least one of the category groups *based on advertising category prototypes received from the clustering engine*” (emphasis added), as required, in part, by amended claim 1.

Hendricks I in view of Herz does not teach, disclose or suggest that advertising category prototypes are received at the set top terminal from the headend. Further, all determinations of targeted content are made at the headend in both Hendricks I and Herz. Therefore, Hendricks I in view of Herz cannot teach, disclose or suggest that a client-side system is “adapted to classify a television user into at least one of the category groups *based on advertising category prototypes received from the clustering engine*” (emphasis added).

Additionally, the evaluation information that is used by Hendricks I in determining targeted content of users is not related to “evaluating television behavioral viewing data from *a plurality of users and for categorizing the data into non-demographically classifiable category groups*” (emphasis added) as required, in part, by amended claim 1.

Further, any combination of Eldering, Hendricks I and Herz does not teach, disclose or suggest “*using a category training set for clustering the television behavioral viewing data into the category groups over a predetermined training period; generating category behavioral profiles targeting the category groups; and generating advertising*

*category prototypes by removing television behavioral viewing data parameters most common between the category behavioral profiles” (emphasis added).*

Moreover, by viewing the disclosures of Eldering, Hendricks I and Herz, one cannot jump to the conclusion of obviousness without impermissible hindsight. According to MPEP §2141.01, “[t]he requirement ‘at the time the invention was made’ is to avoid impermissible hindsight.”

‘[i]t is difficult but necessary that the decisionmaker forget what he or she has been taught ... about the claimed invention and cast the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art.’ W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

Applicant submits that without first reviewing Applicant’s disclosure, no thought, whatsoever, would have been made to

*using a category training set for clustering the television behavioral viewing data into the category groups over a predetermined training period; generating category behavioral profiles targeting the category groups; and generating advertising category prototypes by removing television behavioral viewing data parameters most common between the category behavioral profiles; a client-side system coupled to the server-side system and adapted to classify a television user into at least one of the category groups based on advertising category prototypes received from the clustering engine; a contextual behavioral profiling agent included in the client-side system for deriving profiling information related to a television user’s viewing behavior with content and usage-related preferences; and a behavioral model database for storing in*

the client-side system the profiling information derived by  
the profiling agent (emphasis added).

Further, the assertions made in the Office Action on pages 5-6 that lead to a conclusion of obviousness are not explicit and the basic requirements of an articulated rationale under MPEP §2142 cannot be found. Additionally, since Eldering, Hendricks I and Herz, and therefore, nor the combination of the three, teach, disclose or suggest all the limitations of amended claim 1, as listed above, amended claim 1 is not obvious over Eldering in view of Hendricks I and Herz since a *prima facie* case of obviousness has not been met under MPEP §2143. Additionally, the claims that directly or indirectly depend from amended claim 1, namely, claims 2-4 and 5-7, would also not be obvious over Eldering in view of Hendricks I and Herz for at least the same reason.

Accordingly, withdrawal of the rejection of claims 2-4 and 5-7 is respectfully requested.

*Claims 8-10*

Claims 8-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hendricks II in view of Alexander, Eldering and Hoffberg. The rejection is respectfully traversed because for at least the following reasons, Hendricks II, Alexander, Eldering and Hoffberg, alone or combined, fail to show or suggest the claimed limitations.

Independent claim 8 of the present application requires, in part, a client-side device for recording “contextual *transition behaviors* profiling” the user to continually build a user profile of preferences and contextual transition behaviors associated with the user. Further, amended claim 8 requires, in part, “a program distributing device at the head-end side for providing to the user the program content in accordance with the user profile, wherein *a user is classified at the client-side into at least one category group based on advertising non-demographically classifiable category prototypes received from the head-end side*” and “*the advertising non-demographically classifiable category prototypes are generated by removing television viewing data parameters most common between category behavioral profiles formed at the head-end side by using a category training set for clustering television behavioral viewing data from a plurality of users into non-demographically classifiable category groups over a predetermined training period*” (emphasis added).

In the Office Action the Examiner asserts that the microprocessor 602 of Hendricks II records “contextual transition behaviors.” Applicant respectfully disagrees. Hendricks II, in col. 29, lines 26-43, discloses recording “clues” such as “programs watched and time periods of television viewing.” Such clues, however, are not equivalent to the “contextual *transition behaviors*” of the claimed invention. The concept of “transition,” as clearly defined in the specification of the present application, is completely different from the static recording of programs watched and time periods of television viewing. Rather, referring to, *e.g.*, paragraphs [0036], [0037], [0063], [0064] and [0069] of the publication (Pub. No. 2003/0101451) of the current application No.

10/043,714, “transition” is a dynamic concept including, for example, transition *events* and *state* transitions. More specific examples of the “transition” include regular program and Ad *transitions*. Advantageously, the claimed invention can use program arrival and departure *frequency* and *click timing* as preference indicators (*see, e.g.*, paragraph [0007] of the published application), which is an intelligent process as compared to rudimentary systems where only “programs watched and time periods of television viewing” are recorded.

For example, two television users A and B both watch CNN for one hour a day, and both watch ABC for two hours a day. In the system of Hendricks II, users A and B would have exactly the same profile because each of them watches CNN and ABC (“programs watched”) for one hour and two hours (“time periods of television viewing”), respectively. However, user B may be switching back and forth many times between CNN and ABC during the same 3 hours. Such a behavior is obviously different from that of user A, but cannot be discerned by the system of Hendricks II. Thus, contrary to the Examiner’s assertions, Hendricks II fails to show or suggest the claimed invention as recited in independent claim 8, particularly the “contextual *transition behaviors* profiling” limitation of the present application.

Alexander, like Hendricks II discussed above, also fails to show or suggest the above-mentioned limitations, or to supply what is missing from Hendricks II. This is also evidenced by the fact that Alexander was relied upon by the Examiner merely to supply a

device for providing to the one or more users the program content in accordance with the user's demographic information.

Moreover, Hendricks II discloses server side determinations made for targeting content, which is distinguishable from “*based on advertising non-demographically classifiable category prototypes received from the head-end side*” (emphasis added). Further, Hendricks in view of Alexander does not teach *advertising non-demographically classifiable category prototypes received from the head-end side*” (emphasis added).

As discussed above in regards to amended claim 1, Eldering relates to demographic data and determining a single user's demographic category. Therefore, Eldering does not teach or suggest “a program distributing device at the head-end side for providing to the user the program content in accordance with the user profile, wherein *a user is classified at the client-side into at least one category group based on advertising non-demographically classifiable category prototypes received from the head-end side*” (emphasis added) as required, in part, by amended claim 8.

Moreover, even if Hendricks II, Alexander, Eldering and Hoffberg are combined, the result would still not teach or suggest the limitations of “*the advertising non-demographically classifiable category prototypes are generated by removing television viewing data parameters most common between category behavioral profiles formed at the head-end side by using a category training set for clustering television behavioral viewing data from a plurality of users into non-demographically classifiable category*

*groups over a predetermined training period*" (emphasis added) as required, in part, by amended claim 8.

Further, the assertions made in the Office Action on pages 6-9 that lead to a conclusion of obviousness are not explicit and the basic requirements of an articulated rationale under MPEP §2142 cannot be found. Additionally, since neither Hendricks II, Alexander, Eldering, Hoffberg, and therefore, nor the combination of the four, teach, disclose or suggest all the limitations of amended claim 8, as listed above, amended claim 8 is not obvious over Hendricks II in view of Alexander, Eldering and Hoffberg since a *prima facie* case of obviousness has not been met under MPEP §2143. Additionally, the claims that directly or indirectly depend from amended claim 8, namely, claims 9-10, would also not be obvious over Hendricks II in view of Alexander, Eldering and Hoffberg for at least the same reasons.

Accordingly, withdrawal of the rejection of claims 8-10 is respectfully requested.

#### *Claim 11*

Claim 11 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hendricks II in view of Alexander, Eldering, Hoffberg and further in view of Bedard. The rejection is respectfully traversed because for at least the following reasons, Hendricks II, Alexander, Eldering, Hoffberg and Bedard, whether considered separately or in any combination, fail to show or suggest all the claimed limitations.



Claim 11 depends from claim 8 and includes all the limitations of claim 8. As discussed above, the combination of Hendricks II, Alexander, Eldering and Hoffberg fail to show or suggest all the limitations, particularly the claimed “contextual transition behavioral profiling,” *“the advertising non-demographically classifiable category prototypes are generated by removing television viewing data parameters most common between category behavioral profiles formed at the head-end side by using a category training set for clustering television behavioral viewing data from a plurality of users into non-demographically classifiable category groups over a predetermined training period”* (emphasis added), and “a program distributing device at the head-end side for providing to the user the program content in accordance with the user profile, wherein a user is classified at the client-side into at least one category group based on advertising non-demographically classifiable category prototypes received from the head-end side” (emphasis added). Bedard, like Hendricks II, Alexander, Eldering and Hoffberg discussed above, also fails to show or suggest all the limitations of claim 8, or to supply what is missing in Hendricks II, Alexander, Eldering and Hoffberg.

Bedard is, in fact, completely silent with respect to the claimed “contextual transition behavioral profiling” (emphasis added), *“the advertising non-demographically classifiable category prototypes are generated by removing television viewing data parameters most common between category behavioral profiles formed at the head-end side by using a category training set for clustering television behavioral viewing data from a plurality of users into non-demographically classifiable category groups over a predetermined training period”* (emphasis added), and “a program distributing device at

the head-end side for providing to the user the program content in accordance with the user profile, wherein *a user is classified at the client-side into at least one category group based on advertising non-demographically classifiable category prototypes received from the head-end side*" (emphasis added).

Further, the assertions made in the Office Action on page 9 that lead to a conclusion of obviousness are not explicit and the basic requirements of an articulated rationale under MPEP §2142 cannot be found. Additionally, since neither Hendricks II, Alexander, Eldering, Hoffberg and Bedard, and therefore, nor the combination of the five, teach, disclose or suggest all the limitations of amended claim 8, as listed above, amended claim 8 is not obvious over Hendricks II in view of Alexander, Eldering and Hoffberg, and further in view of Bedard since a *prima facie* case of obviousness has not been met under MPEP §2143. Additionally, the claim that directly depends from amended claim 8, namely, claim 11, would also not be obvious over Hendricks II in view of Alexander, Eldering and Hoffberg, and further in view of Bedard for at least the same reasons.

Accordingly, withdrawal of the rejection of claim 11 is respectfully requested.

*Claims 12, 13, 15-18 and 21*

Claims 12, 13, 15-18 and 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hendricks I in view of Eldering. The rejection is respectfully traversed

because for at least the following reasons, Hendricks I and Eldering, alone or combined, fail to show or suggest the claimed limitations.

Independent claim 12 of the present application requires, in part, a knowledge base acquirer outputting a knowledge base in the form of a “*transition matrix*,” “*the advertising category prototypes are generated at the head-end side by removing television viewing data parameters most common between category behavioral profiles formed at the head-end side by using a category training set for clustering the viewing information from the plurality of users into the plurality of classifiable category groups over a predetermined training period*” (emphasis added), and “*a user is classified into at least one category group based on advertising category prototypes transmitted from the head-end side*” (emphasis added). Hendricks and Eldering, alone or in combination, fail to show or suggest at least such limitations.

Similarly as discussed above with regards to claim 1, Hendricks I discloses the determinations and decisions of content targeting are only handled at the headend. Eldering only relates to determining a demographic of a single user. Moreover, since the information received *from a plurality of users* is selected from the group consisting of watch data, watch start time data, watch duration data, and watch channel data, *demographic information describing a program user*, there would be no need to determine a demographic group of a user as in Eldering since it is already known. Therefore, it is clear that Eldering is completely distinguishable from Applicant's amended claim 12.

Moreover, even if Hendricks I is combined with Eldering, the result would still not teach or suggest

a central data system at the head-end side which receives *viewing information from a plurality of users* selected from the group consisting of watch data, watch start time data, watch duration data, and watch channel data, *demographic information describing a program user*, and electronic program guide information with metadata describing a program content; a demographic cluster knowledge base acquirer receiving from the client side *behavioral data of the user*, the knowledge base acquirer outputting a knowledge base based on the viewing information in the form of a transition matrix with weight sets, the transition matrix used for predicting a category group of the user based on the behavioral data of the user; and a program content generating module disposed at the head-end side and providing to the client side streams of program content based on the predicted category group of the user, wherein a user is classified into at least one category group based on advertising category prototypes transmitted from the head-end side, wherein the advertising category prototypes are generated at the head-end side by removing television viewing data parameters most common between category behavioral profiles formed at the head-end side by using a category training set for clustering the viewing information from the plurality of users into the plurality of classifiable category groups over a predetermined training period" (emphasis added).

Further, the assertions made in the Office Action on pages 9-11 that lead to a conclusion of obviousness are not explicit and the basic requirements of an articulated rationale under MPEP §2142 cannot be found. Additionally, since neither Hendricks I, Eldering, and therefore, nor the combination of the two, teach, disclose or suggest all the limitations of amended claim 12, as listed above, amended claim 12 is not obvious over Hendricks I in view of Eldering since a *prima facie* case of obviousness has not been met under MPEP §2143. Additionally, the claims that directly or indirectly depend from

amended claim 12, namely, claims 13, 15-18 and 21, would also not be obvious over Hendricks I in view of Eldering for at least the same reasons.

Accordingly, withdrawal of the rejection of claims 12, 13, 15-18, and 21 is respectfully requested.

*Claims 14 and 19*

Claims 14 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hendricks in view of Eldering, and further in view of Herz. The rejection is respectfully traversed because for at least the following reasons, Hendricks, Eldering and Herz, alone or combined, do not show or suggest all of the claimed limitations.

Claims 14 and 19 depend from independent claim 12 and include all the limitations of claim 12. As discussed above with respect to claim 12, Hendricks and Eldering fail to show or suggest all the limitations of claims 14 and 19. Herz, like Hendricks and Eldering discussed above, also fails to show or suggest all of the limitations of claim 12 more particularly the “*transition matrix*,” (emphasis added) “*the advertising category prototypes are generated at the head-end side by removing television viewing data parameters most common between category behavioral profiles formed at the head-end side by using a category training set for clustering the viewing information from the plurality of users into the plurality of classifiable category groups over a predetermined training period*” (emphasis added), and “*a user is classified into at least one category group based on advertising category prototypes transmitted from the*

*head-end side*” (emphasis Added), as claimed, or to supply that which Hendricks and Eldering lack.

Moreover, even if Hendricks I is combined with Eldering and Herz, the result would still not teach or suggest

a central data system at the head-end side which receives *viewing information from a plurality of users* selected from the group consisting of watch data, watch start time data, watch duration data, and watch channel data, *demographic information describing a program user*, and electronic program guide information with metadata describing a program content; a demographic cluster knowledge base acquirer receiving from the client side *behavioral data of the user*, the knowledge base acquirer outputting a *knowledge base based on the viewing information* in the form of a transition matrix with weight sets, the transition matrix *used for predicting a category group of the user based on the behavioral data of the user*; and a program content generating module disposed at the head-end side and providing to the client side streams of program content based on the predicted *category group* of the user, wherein a user is classified into at least one *category group* based on advertising category prototypes transmitted from the head-end side, wherein the *advertising category prototypes are generated at the head-end side by removing television viewing data parameters most common between category behavioral profiles formed at the head-end side by using a category training set for clustering the viewing information from the plurality of users into the plurality of classifiable category groups over a predetermined training period* (emphasis added).

Further, the assertions made in the Office Action on pages 11-12 that lead to a conclusion of obviousness are not explicit and the basic requirements of an articulated rationale under MPEP §2142 cannot be found. Additionally, since neither Hendricks I, Eldering, Herz, and therefore, nor the combination of the three, teach, disclose or suggest

all the limitations of amended claim 12, as listed above, amended claim 12 is not obvious over Hendricks I in view of Eldering and Herz since a *prima facie* case of obviousness has not been met under MPEP §2143. Additionally, the claims that directly or indirectly depend from amended claim 12, namely, claims 14 and 19, would also not be obvious over Hendricks I in view of Eldering and Herz for at least the same reasons.

Accordingly, withdrawal of the rejection of claims 14 and 19 is respectfully requested.

*Claim 20*

Claim 20 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Hendricks in view of Eldering further in view of Herz, and further in view of Rabiner. The rejection is respectfully traversed because for at least the following reasons, Hendricks, Eldering, Herz and Rabiner, alone or combined, do not show or suggest all of the claimed limitations.

Claim 20 depends from claim 12, and includes all the limitations of claim 12. Rabiner fails to supply that which Hendricks, Eldering, and Herz lack with respect to all the limitations of claim 12, particularly the claimed “transition matrix,” “the *advertising category prototypes are generated at the head-end side by removing television viewing data parameters most common between category behavioral profiles formed at the head-end side by using a category training set for clustering the viewing information from the plurality of users into the plurality of classifiable category groups over a predetermined*

*training period* (emphasis added), and “*a user is classified into at least one category group based on advertising category prototypes transmitted from the head-end side*” (emphasis added). This is further evidenced by the fact that Rabiner was relied upon by the Examiner merely to supply random processing. Thus, the cited references cannot possibly show or suggest all the limitations of claim 20.

Furthermore, the fact that the Examiner has used four (4) references to arrive at the claimed invention without properly supplying a motivation to combine the references, and the fact that the references are combined despite that Rabiner is directed to applications in speech recognition and Eldering is directed to determining a demographic group of a single user, are strong indications that the Examiner, aided with the present application as a road map, has used impermissible hindsight reconstruction to pick and choose among isolated disclosures in the prior art.

Applicant submits that without first reviewing Applicant's disclosure, no thought, whatsoever, would have been made to the claimed “transition matrix,” “*the advertising category prototypes are generated at the head-end side by removing television viewing data parameters most common between category behavioral profiles formed at the head-end side by using a category training set for clustering the viewing information from the plurality of users into the plurality of classifiable category groups over a predetermined training period*” (emphasis added), and “*a user is classified into at least one category group based on advertising category prototypes transmitted from the head-end side*” (emphasis added).



Moreover, even if Hendricks I is combined with Eldering and Rabiner, the result would still not teach or suggest

a central data system at the head-end side which receives *viewing information from a plurality of users* selected from the group consisting of watch data, watch start time data, watch duration data, and watch channel data, *demographic information describing a program user*, and electronic program guide information with metadata describing a program content; a demographic cluster knowledge base acquirer receiving from the client side *behavioral data of the user*, the knowledge base acquirer outputting a knowledge base based on the viewing information in the form of a transition matrix with weight sets, the transition matrix used for predicting a category group of the user based on the behavioral data of the user; and a program content generating module disposed at the head-end side and providing to the client side streams of program content based on the predicted category group of the user, wherein a user is classified into at least one category group based on advertising category prototypes transmitted from the head-end side, wherein the advertising category prototypes are generated at the head-end side by removing television viewing data parameters most common between category behavioral profiles formed at the head-end side by using a category training set for clustering the viewing information from the plurality of users into the plurality of classifiable category groups over a predetermined training period (emphasis added).

Further, the assertions made in the Office Action on pages 12-13 that lead to a conclusion of obviousness are not explicit and the basic requirements of an articulated rationale under MPEP §2142 cannot be found. Additionally, since neither Hendricks I, Eldering, Rabiner, and therefore, nor the combination of the three, teach, disclose or suggest all the limitations of amended claim 12, as listed above, amended claim 12 is not obvious over Hendricks I in view of Eldering and Rabiner since a *prima facie* case of obviousness has not been met under MPEP §2143. Additionally, the claim that indirectly

depends from amended claim 12, namely, claim 20, would also not be obvious over  
Hendricks I in view of Eldering and Rabiner for at least the same reasons.

Accordingly, withdrawal of the rejection of claim 20 is respectfully requested.

**CONCLUSION**

In view of the foregoing remarks, Applicant believes that the rejected claims are in condition for allowance. Reconsideration, re-examination, and allowance of the rejected claims are respectfully requested. If the Examiner feels that a telephone interview would help with the examination of the present application, the Examiner is encouraged to call the undersigned attorney or his associates at the telephone number listed below.

Please direct all correspondence to **Myers Andras Sherman LLP**, 19900 MacArthur Blvd., 11<sup>th</sup> Floor, Irvine, California 92612.

Respectfully submitted,

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